Urboecology - Interdisciplinary Synthesis of Geography and Ecology

Komilova Nilufar Karshiboevna
Professor of Department of economic and social geography faculty of geography and natural resources National University of Uzbekistan named after Mirzo Ulugbek

Latipov Normurod Faxriddin o'g'li
Basic doctoral student of the Department of Social and Economic Geography of the National University of Uzbekistan named after Mirzo Ulugbek

ABSTRACT

The city is a dynamic system. Its analysis is necessary for all processes at all stages of the existing process, from project development to monitoring long-term use and development methods. A city is a complex system in which two sub-systems, natural and anthropogenic, interact dynamically.[18]

Urbanized areas are characterized by their unsustainable development, which is often influenced by anthropogenic factors. As a result, along with various socio-economic problems in the region, there are environmental problems. In the study of environmental problems in urban areas, the analysis from the point of view of urban ecology, which emerged as a result of the integration of several disciplines, is correct in all respects. This article argues that urban ecology is an important branch of the science of geography and that it was formed in harmony with several disciplines.

KEYWORDS: *Geourbanistics, environmental quality, population health, ecology, constructive geography.*

In today's era of globalization, the relationship between man and nature is characterized by a complex nature. With the development of science and technology, and the expansion of human needs, a number of problems have arisen, the solution of which is not enough within a single science. The interaction of science and technology, and the interdisciplinary integration approach are very important in solving these problems. In this regard, the science of urban ecology should also be considered a field of mutual integration of geography and ecological sciences, because the study of the scientific basis of the content of urban ecology includes the following [14]:

- identification of modern socially significant trends in the development of geography, which determines the formation of innovative directions, approaches, tools;
- To determine the essence of the city's economy as a developing scientific field in the general problem area of geography and ecology;
- substantiation of the main scientific approaches in urban ecological research.

Acceleration of socio-economic development, the formation of a single global socio-economic space as a result of rapid integration processes, structural changes in the economy, and the aggravation of environmental problems have led to a revolution in the minds of society. The most complex interdependence of these factors, which signifies a change in the socio-cultural relations of society, "has led to a number of radical changes in the life of geography" (V.K. Preobrazhensky). [12]

In this regard, V.P. Maksakovsky noted that "the change in these trends in the development of

geography means, first of all, the formation of a new ecological and humanistic worldview that takes into account man, his life and social relations." [9] The ecological and humanistic tendencies of geography, as V.S. Preobrazhensky points out, represent the nature of the scientific categories: environmental protection, humans and their interaction, and are reflected in the formation of a special field of scientific research - the socio-cultural sphere. [15] There is a growing interest in human foreign economic activity, the development of sociological sciences (for example, sociogeoecology - S.Lavrov, V.G. Morachevsky, constructive geography – I.P. Gerasimov, recreational geography - Yu.A. Vedenin, N.S. Mironenko, B.K. Preobrazhensky, I.T. Tverdoxlebov). [13] New scientific directions, which have emerged mainly in the border areas, where they intersect with other disciplines, are characterized by the presence of a significant part of the integrative elements.

Socio-cultural and ecological-humanistic definition of scientific knowledge in the field of urban geography has defined a new scientific direction - the formation of urban ecology. Urban ecology as a scientific field of knowledge is a natural result of general geographical trends and the global process of urbanization, and concepts such as man, urban environment, and optimization are the basic concepts in this regard. [8]

The theoretical basis for covering the scientific content of urban ecology was as follows: [10]

- To get acquainted with the ideas related to the dialectical interrelation of differentiation and integration of scientific geographical knowledge (Yu.N. Gladkiy, S.B. Lavrov, O.P. Litovka, V.P. Maksakovsky, Yu.G. Saushkin);
- Analysis of some theories as a new stage in the development of geo-urbanism (G.M. Lappo, E.N. Pertsik, N.V. Petrov, Yu.L. Pivovarov);
- Focus on the historical stages of development of urban geography identified by G.M. Lappo;
- Relying on and guiding the ideas of constructivism in geography (I.P. Gerasimov, V.M. Kotlyakov, V.S. Preobrazhensky);

The stratification of socio-economic geography, which is one of the main factors in the development of scientific knowledge, has determined the emergence and formation of a new scientific direction in the field of urban geography - urban ecology. (Figure 1).[11]

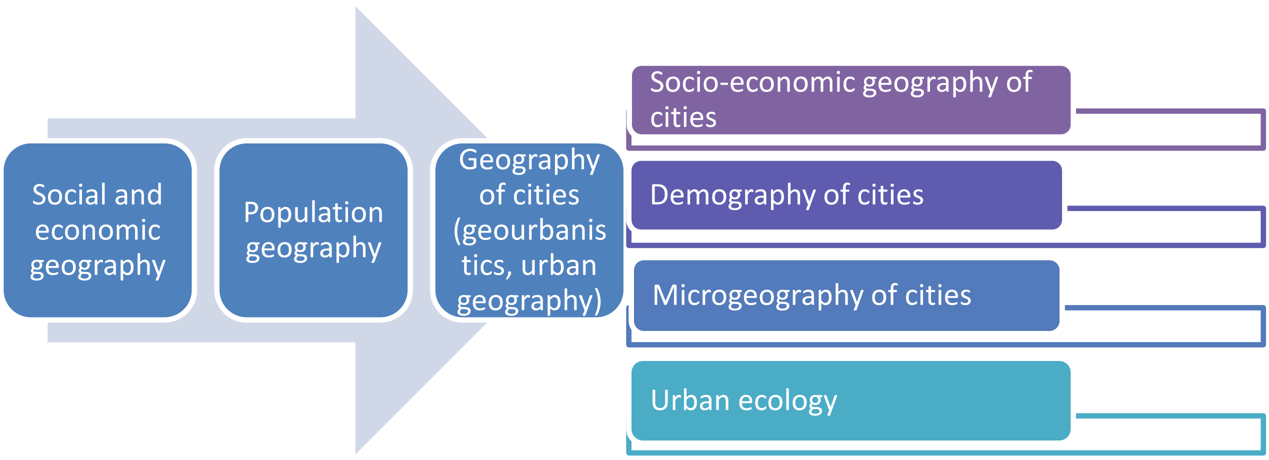


Figure 1. The role of urban ecology in socio-economic geography

It must be acknowledged that urban ecology, as a science of organizing the urban environment, originated from architecture and urban planning and has maintained a strong functional and genetic link with them.[3]

Theoretical analysis shows that the formation of urban ecology is a complex process of interdisciplinary synthesis of fundamental and practical knowledge obtained in various types of scientific and practical activities and their transformation not only into integrity but also into the ecological system of the city. The systematic relationship of urban ecology with various fields of activity and science is shown in Figure 2.[5]

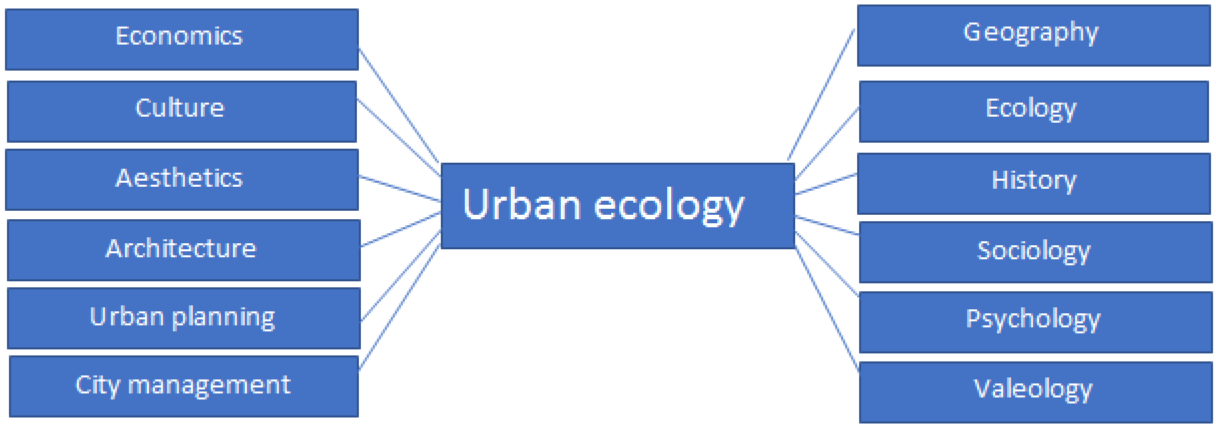


Figure 2. Intersystem connection of urban ecology

The formation of urban ecology on the multifaceted border of socio-economic geography with many scientific disciplines has determined its high integrative potential. Its scientific foundations are based on knowledge of geography, ecology, urban planning, sociology, cultural studies and psychology.

Integration processes form the whole cognitive structure of urban ecology, distinguishing new blocks, components, and elements in its structure, as a result of which it becomes multifaceted and multifunctional. In urban ecology, we also note the need to synthesize scientific and artistic positions.[6]

The artistic aspects of the formation of the urban environment in the field of science, aesthetics, and cultural studies, define the axiological side of the relationship with psychology and actualizes the problem of perception of the urban environment, its attitude to quality, and adaptation. In connection with the place and role of scientific knowledge in the general system, we can note the growth of the self-reflective feature of science.

An integrated analysis of the cognitive structure of urban ecology includes the following features of the developing science:[7]

- Analysis of different forms of interdisciplinary knowledge, which differ from each other in terms of generalization, volume, level of organization, reliability;
- Development of proposals and recommendations based on system-ecological, problem-based, historical, factorial analysis and scientific methods, including experimental, geographical, sociological approaches;
- Improving the system of relations between different disciplines based on complementarity.

V.V. Vladimirov, E.M. Mikulin, Z.N. Yargin, who made a great contribution to the establishment of new scientific science, note in the book "City and Landscape": [11] In their view, the synthesis of scientific knowledge is that urban ecology is a constructive direction of human social ecology and, at the same time, a specific direction of urban science, the subject of which is the study of nature. the study traces the interaction between urban structures and the natural environment and develops proposals for its optimization.[17]

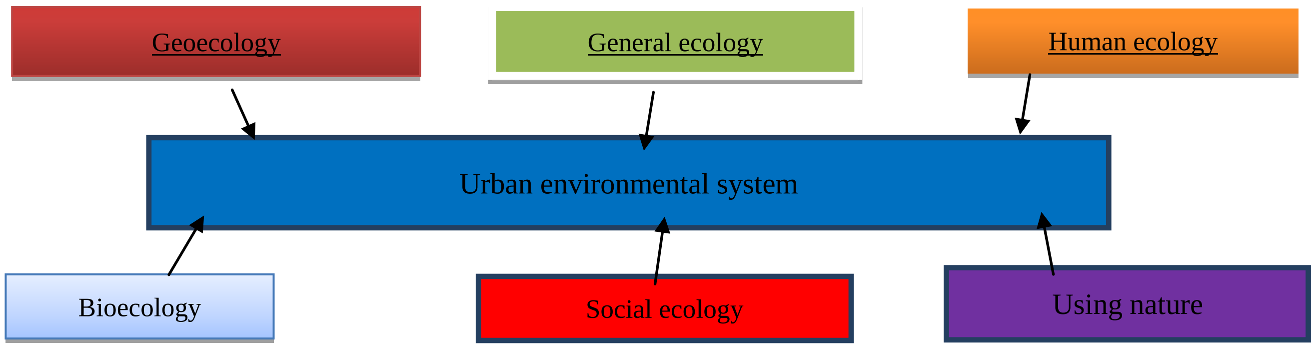


Figure 3. Relationship of urban ecology with other ecological sciences.

"The main goal of urban ecology is to find and develop solutions for urban planning and territorial organization in a broad sense, not only to provide optimal hygienic and other living conditions for the population in individual settlements but also to rationalize the use of nature in a broader sense." [8]

In conclusion, it can be said that in rapidly developing cities, man and his needs are also increasing. Inadequate use of nature in this adequate process, excessive pollution of industrial enterprises leads to problems of various scales. The science of urban ecology deals with the regulation of these processes and their monitoring by modern technologies.

REFERENCES

1. Allaberdiev, R., Rakhimova, T., Komilova, N., Kamalova, M., Kuchkarov, N. Study of Plant Adaptation to the Arid Zone of Uzbekistan based on System Analysis | Вивчення адаптації рослин до посушливої зони Узбекистануна основі системного аналізу Scientific Horizons, 2021, 24(10), стр. 52–57
2. Boulding, K. E. (1966). The economics of the coming spaceship earth. In H. Jarrett (Ed.), Environmental quality in a growing economy (pp. 3–14). John Hopkins University and Resources for the Future
3. Faxriddin o'g'li, L. N., & Erkaboevich, E. H. (2022). THE PROCESS OF URBANIZATION AND ITS RELATION TO THE ENVIRONMENT. *Web of Scientist: International Scientific Research Journal*, *3*(3), 188-196.
4. Hu, A. (2014). The theory of green development. In: China: Innovative Green Development (pp. 15–56). Springer. https://doi.org/10.1007/978-3-642-54962-5_2
5. Kalonov, B. H., Latipov, N. F., & Shirinova, M. S. (2021). ENVIRONMENTAL PROBLEMS IN THE NAVOI REGION COTTON FIELD. *Мировая наука*, (4), 15-18.
6. Kalonov, B. H., & Latipov, N. F. (2021). Characteristics Of Geographical Location Of The Population Of Navoi Region. International Journal of Progressive Sciences and Technologies, 25(2), 477-479.
7. Komilova and Latipov (2022) Factors affecting the ecological status of industrialized cities and measures to monitor them. Mediterr J Pharm Pharm Sci. 2 (1): 8-13. https://doi.org/10.5281/zenodo.6397892
8. Komilova, N.K., Rakhimova, T., Allaberdiev, R.Kh., Mirzaeva, G.S., Egamberdiyeva, U.T. Ecological situation: The role of education and spirituality in improving health of population

International Journal of Health Sciences 2021, 5(3), стр. 302–312

9. Pan, A., Wang, Q., & Yang, Q. (2020). Assessment on the coordinated development oriented to Green City in China. Ecological Indicators, 116, 106486. https://doi.org/10.1016/j.ecolind.2020.106486
10. Shi, B., Yang, H., Wang, J., & Zhao, J. (2016). City green economy evaluation: Empirical evidence from 15 sub-provincial cities in China. Sustainability, 8(6), 551. https://doi.org/10.3390/su8060551
11. Ugli, L. N. F. (2019). Geourbanistic's role in socio-economic geography. International scientific review, (LXV), 47-50.
12. Бочкарева Т.В. Экологический «джин» урбанизации. - М.: Мысль, 1988. 268 с.
13. Винокурова Н.Ф. Интеграция экологических знаний. - Н.Новгород: ИздвоВ-ВАГС. 1996.76 с.
14. Владимиров В.В. и др. Город и ландшафт (проблемы, конструктивные задачи и решения). - М.: Мысль, 1986.238 с
15. Геоэкологические основы территориального проектирования и планирования / Отв. ред. В.С.Преображенский, Т.Д.Александрова. - М.: Наука, 1989.220 с.
16. Гетгнер А. География и история, сущность и методы. - М-Л.: Б.и. 1930. 320 с.
17. Калонов, Б. Х., & Латипов, Н. Ф. (2018). GEOGRAPHICAL PECULIARITIES OF POPULATION IN NAVOI REGION. Наука и мир, (2-2), 79-80.
18. Латипов, Н. Ф. (2017). LOCALITY AND FACTORS AFFECTING THE POPULATION. Наука и мир, 1(11), 74-75.
19. Экологические аспекты городских систем. Минск, 1984.
20. Яницкий О.Н. Экология города. Зарубежные междИсциплинарные концепции. М., 1984